



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

646.4003

Job Sheet 176066



Part No: 646.4003

Job Qty: 1 ea

Part Name: AS350 Cable Cutter System Removable Provisions



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 4/16/18

Job Tracking No:

Due Date: 5/9/18

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG REV C1 IPP REV:A 12.12.23 NEW ISSUE DD VERF:JLM IPP REV:B 15.01.08 AS PER DWG REV.B
DD VERF:JLM IPP REV:C 16.01.07 DWG REV.C DD VERF:JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea	5/9/18	5/9/18	0.00	0.00	Start Up Stores/Pkg-1	6	MAY 25 2018
110	Packaging	1 pcs	5/9/18	5/9/18	0.00	0.00	Packaging1-1	9-89	
120	QC	1 pcs	5/9/18	5/9/18	0.00	0.00	QC4		SMB
125	DC	1 pcs	5/9/18	5/9/18	0.00	0.00	DC		
130	Packaging	1 pcs	5/9/18	5/9/18	0.00	0.00	Packaging3-1		SMB
140	QC21-FG	1 Ea	5/9/18	5/9/18	0.00	0.00	QC21		MAY 28 2018

Part Op 125 - Photocopy bluefile & type labels per PPP 646.4003

Descriptions: 130 - Identify and pack for shipping as per PPP 646.4003 Location: _____

DAS
21
9-89

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
600.0129	VHB Tape	8 ft (8 ea)	90-Start up Operation	5019004
600.0990	Magnabond 6398 Part A Size 112 ml	1 Ea (1 ea)	90-Start up Operation	5035889
600.0991	Magnabond 6398 Part B Size 112 ml	1 Ea (1 ea)	90-Start up Operation	5035890
600.1012	Sealant PR1425B2 (#654 sem)	1 pcs (1 ea)	90-Start up Operation	5036028
600.1013	021200-3M Tape Primer 94 Primer 24216	5 Ea (5 ea)	90-Start up Operation	5066985
646.2910	Deflector	1 Ea (1 ea)	90-Start up Operation	5069604
646.3001	Lower Cable Cutter Assembly	1 Ea (1 ea)	90-Start up Operation	
646.3110	Channel	1 Ea (1 ea)	90-Start up Operation	5044090
646.3301	Upper Cutter Assembly	1 Ea (1 ea)	90-Start up Operation	5063230
646.3510	Strut	1 Ea (1 ea)	90-Start up Operation	5081107
646.3511	Strut	1 Ea (1 ea)	90-Start up Operation	5036176
646.3610	Filler	1 Ea (1 ea)	90-Start up Operation	5043541
646.3711	Clip	1 Ea (1 ea)	90-Start up Operation	5038799
646.3712	Clip	1 Ea (1 ea)	90-Start up Operation	5159863
646.3716	Gauge Bracket	1 Ea (1 ea)	90-Start up Operation	5027180
646.3718	Custom Washer	2 Ea (2 ea)	90-Start up Operation	5026895
646.3811	Radius Block	1 Ea (1 ea)	90-Start up Operation	5059879
646.3910	Shim	4 Ea (4 ea)	90-Start up Operation	5038811
646.3911	Shim	1 Ea (1 ea)	90-Start up Operation	5027797
646.3912	Shim	4 Ea (4 ea)	90-Start up Operation	5065219
646.3913	Shim	1 Ea (1 ea)	90-Start up Operation	5124060
646.9410	Shim	1 Ea (1 ea)	90-Start up Operation	5140671

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION		AGAINST DEPARTMENT/PROCESS				
	Rework ☐	Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐		
	Scrap ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐		
	Use-as-is ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐		
	Suspected Unapproved ☐	Large Fab ☐	Composite ☐	Supplier ☐			

Date : _____	Step #: _____	QTY Effective : _____	MRB (QSI042) Approval
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Description Work Order Deviation	Disposition	Completed By
		Lead hand / Supervisor Approval Verification

Root Cause			FAULT CATEGORY		
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/ ☐	
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Progr ☐	
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong S ☐	
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of S ☐	
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislal ☐	
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Fi ☐	
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Mis: ☐	
Past Expiry Date ☐	Manufacturing Process ☐				
Misidentified ☐	Past Due ☐	OTHER : _____			



647.0112	Strut Bracket	2 Ea (2 ea)	90-Start up Operation	5050462
647.7703	Strut Assembly	2 Ea (2 ea)	90-Start up Operation	5065469
650.9201	Eyelet Bracket Assembly	2 Ea (2 ea)	90-Start up Operation	5059378
AN3-11A	Bolt	10 Ea (10 ea)	90-Start up Operation	5027721
AN3-12A	Bolt	2 Ea (2 ea)	90-Start up Operation	5048376
AN3-13A	Bolt	1 Ea (1 ea)	90-Start up Operation	5038733
AN3-4A	Bolt	6 Ea (6 ea)	90-Start up Operation	5060063
AN3-5A	Bolt	2 Ea (2 ea)	90-Start up Operation	5041106
AN3-6A	Bolt	2 Ea (2 ea)	90-Start up Operation	5000530
AN316C4R	Nut, Jam	2 Ea (2 ea)	90-Start up Operation	5056384
AN44-5A	Eyebolt	2 Ea (2 ea)	90-Start up Operation	5027576 5041156
AN4C7A	Bolt	2 Ea (2 ea)	90-Start up Operation	5027576
AN665-34R	Clevis	2 Ea (2 ea)	90-Start up Operation	5021154
MS20426AD5-7	Rivet	2 Ea (2 ea)	90-Start up Operation	5135818
MS21042L08	Use Ms21042L08	2 Ea (2 ea)	90-Start up Operation	5044234
MS21042-3	Nut	2 Ea (2 ea)	90-Start up Operation	5062377
MS21042L3	Nut	53 Ea (53 ea)	90-Start up Operation	5054118
MS21042L4	Nut	2 Ea (2 ea)	90-Start up Operation	506502
MS24693-C278	Screw	5 Ea (5 ea)	90-Start up Operation	5004854
MS24694-S51	Screw	5 Ea (5 ea)	90-Start up Operation	5027780
MS24694-S54	Screw	2 Ea (2 ea)	90-Start up Operation	5050050
MS24694-S55	Screw	3 Ea (3 ea)	90-Start up Operation	5019320.1
MS27039-08-13	Screw	2 Ea (2 ea)	90-Start up Operation	5049832
MS27039-1-12	Screw	6 Ea (6 ea)	90-Start up Operation	5027541
MS27039-1-16	Screw	24 Ea (2 ea)	90-Start up Operation	5050571 5065263X21
MS27039-1-19	Screw	22 Ea (22 ea)	90-Start up Operation	5000680
MS27039-1-20	Screw	2 Ea (2 ea)	90-Start up Operation	5037684
MS27039-1-21	Screw	4 Ea (4 ea)	90-Start up Operation	5057525
NAS1149F0332P	Washer	120 Ea (120 ea)	90-Start up Operation	5050055
NAS1149F0432P	Washer	4 Ea (4 ea)	90-Start up Operation	5020604
NAS1149FN832P	Washer	4 Ea (4 ea)	90-Start up Operation	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	600.0129	8	448	0
	600.0990	1	22	0
	600.0991	1	21	0
	600.1012	1	24	0
	600.1013	5	30	0
	646.2910	1	9	0
	646.3001	1	7	0
	646.3110	1	21	0
	646.3301	1	6	0
	646.3510	1	26	0
	646.3511	1	15	0
	646.3610	1	19	0
	646.3711	1	29	0
	646.3712	1	41	0
	646.3716	1	27	0
	646.3718	2	52	0
	646.3811	1	28	0
	646.3910	4	41	0
	646.3911	1	42	0
	646.3912	4	30	0
	646.3913	1	58	0
	646.9410	1	121	0
	647.0112	2	86	0
	647.7703	2	16	0
	650.9201	2	20	0
	AN3-11A	10	235	0
	AN3-12A	2	103	0
	AN3-13A	1	55	0
	AN3-4A	6	496	0
	AN3-5A	2	394	0
	AN3-6A	2	255	0
	AN316C4R	2	44	0
	AN44-5A	2	21	0

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐				
Date : _____	Step #: _____	QTY Effective : _____			MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			Completed By	
					Lead hand / Supervisor Approval Verification	
					QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY				
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	
OTHER : _____						

AN4C7A	2	89	0
AN665-34R	2	38	0
MS20426AD5-7	2	1,201	0
MS21042-08	2	0	0
MS21042-3	2	254	0
MS21042L3	53	2,433	0
MS21042L4	2	3,235	0
MS24693-C278	5	60	0
MS24694-S51	5	264	0
MS24694-S54	2	115	0
MS24694-S55	3	170	0
MS27039-08-13	2	415	0
MS27039-1-12	6	343	0
MS27039-1-16	2	588	0
MS27039-1-19	22	259	0
MS27039-1-20	2	69	0
MS27039-1-21	4	102	0
NAS1149F0332P	120	3,099	0
NAS1149F0432P	4	2,245	0
NAS1149FN832P	4	3,306	0

Part Specifications

Specifications could not be found.

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

REFERENCE ONLY

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NOTES:

1. AFTER INSTALLATION, APPLY F/N 54 A/R TO FILL GAPS AND FILLET EDGES.

2. INSTALL F/N 14 WITH F/N 52 & 53.

3. 3M VHB ADHESIVE TAPE .025" THICK X .50" WIDE
VENDOR: MCMASTER-CARR P/N 75935A651.

4. 3M TAPE PRIMER 94, APPLY TO BOTH SURFACES A/R BEFORE TAPE.
VENDOR: R.S. HUGHES P/N 021200-24216.

5. REUSE FASTENERS FROM F/N 1.

6. USE WASHERS A/R AS SHIMS TO OBTAIN BEST FITMENT.

7. AT CUSTOMERS OPTION, INSTALL F/N 65 BY MATCH DRILLING ON TO F/N 1.

8. INSTALL SHIM IF OEM PROVISIONS ARE INSTALLED ON AIRCRAFT, REMOVE SHIM LAYERS TO ACHIEVE CORRECT SIZE. MATCH DRILL HOLES. USE F/N 78 SCREW IN PLACE OF F/N 17 SCREW.

9. NEWER INSTALLATIONS ON AIRCRAFT WITH UPDATED CANOPY MAY REQUIRE DIFFERENT LENGTH SCREWS. USE F/N 62 TO REPLACE F/N 44 & F/N 26 IN PLACE OF F/N 41 WHEN NECESSARY.

UNINCORPORATED ECN(S)

05304

5	5	5	78	601.3875	SCREW	AS22039-1-10				
1	1	1	77	646.9410	SHIM	AS22039-1-10				
	4	4	76	601.2764	WASHER	AS22039-1-10				
	2	2	75	601.2973	LOCKNUT	AS22039-1-10				
	2	2	74	601.2988	SCREW	AS22039-1-10				
	2	2	73	601.2943	LOCKNUT	AS22039-1-10				
	2	2	72	601.3128	NUT	AN3-12A				
	2	2	71	601.3209	LOCKNUT	AS22039-1-10				
	4	4	70	601.2638	WASHER	AS22039-1-10				
	2	2	69	601.2669	BOLT	AN3-12A				
	2	2	68	601.3119	CLEVIS	AN3-12A				
	2	2	67	601.3121	EYE BOLT	AN3-12A				
	2	2	66	650.9201	EYE BRACKET ASSY	AS22039-1-10				
REF	REF	REF	65	647.5701	GPS MOUNT KIT	AS22039-1-10				
		2	64	601.3151	WASHER	AS22039-1-10				
		2	63	601.2911	SCREW	AS22039-1-10				
	24	24	62	601.2637	SCREW	AS22039-1-10				
2	2	2	61	601.2763	BOLT	AN3-12A				
	1	1	60	646.3913	SHIM	AS22039-1-10				
	4	4	59	646.3912	SHIM	AS22039-1-10				
	1	1	58	646.3911	SHIM	AS22039-1-10				
	4	4	57	646.3910	SHIM	AS22039-1-10				
	5	5	56	600.1013	PRIMER	AS22039-1-10				
	8 FT	8 FT	55	600.0129	VHB TAPE	AS22039-1-10				
	1	1	54	600.1012	SEALANT	PR-105 CLASS B				
	1	1	53	600.0991	MAGNOBOND 6398 PART B	AS22039-1-10				
	1	1	52	600.0990	MAGNOBOND 6398 PART A	AS22039-1-10				
6	10	10	51	601.2826	BOLT	AN3-12A				
		2	50	646.3814	WIPER BRACKET	AS22039-1-10				
		2	49	601.2910	SCREW	AS22039-1-10				
	2	2	48	601.1365	SCREW	AS22039-1-10				
	2	2	47	646.3719	DOUBLER	AS22039-1-10				
		2	46	646.3718	CUSTOM WASHER	AS22039-1-10				
		1	45	646.3717	DOUBLER	AS22039-1-10				
	22	22	44	601.1948	SCREW	AS22039-1-10				
	2	2	43	601.1952	SCREW	AS22039-1-10				
	4	4	42	601.1956	SCREW	AS22039-1-10				
4006	4005	4004	4003	4002	4001	FIND #	PART #	DESCRIPTION	MATL	SPEC.

REV.	DESCRIPTION	DATE	APPROVED
A	INCORPORATED ECN 02199, 02051, 02116 & 02145	02/08/2010	P. BRAVO
B	INCORPORATED ECN 02048, 02079 & 04731	11/24/2014	P. BRAVO
C	INCORPORATED ECN 02008	01/09/2015	P. BRAVO

		2	2	41	601.2829	SCREW	MS22469-4354			
		2	2	40	601.2831	RIVET	MS20476-AD5-7			
		1	1	39	646.3716	GAUGE BRACKET				
		6	6	38	601.1953	SCREW	MS2703P-1-12			
	2		2	37	646.3715	STRUT DOUBLER				
	2	2	2	36	601.2824	BOLT	AN3-5A			
12	36		36	35	601.2277	RIVET	CCRM4813-02			
6	18		18	34	600.0795	NUTPLATE	MS21047-3			
3	3		3	33	601.2565	RIVET	MS20476-AD5-7			
1	1		1	32	646.3813	STRUT BRACKET				
4	4		4	31	601.2822	BOLT	AN3-3A			
2	2		2	30	646.3812	GUSSET BRACKET				
8	8		8	29	601.2564	RIVET	MS20476-AD5-6			
1	1		1	28	646.3714	GUSSET				
	1	1	1	27	646.3610	FILLER				
	3	3	3	26	601.2830	SCREW	MS2469-4350			
	2	2	2	25	601.2825	BOLT	AN3-6A			
	1	1	1	24	646.3811	RADIUS BLOCK				
	1	1	1	23	646.3712	CLIP				
	1	1	1	22	646.3711	CLIP				
8	8		8	21	601.2832	RIVET	MS20476-AD5-5			
14	14		14	20	601.2020	RIVET	CR3215-5-3			
4	6	4	6	10	601.2823	BOLT	AN3-4A			
	1	1	1	18	601.2827	BOLT	AN3-13A			
	5	5	5	17	601.2912	SCREW	MS2469-4351			
	1	1	1	16	646.3713	GUSSET				
	1	1	1	15	646.3210	SUPPORT				
	1	1	1	14	646.3710	DOUBLER				
	1	1	1	13	646.3110	CHANNEL				
14	10	8	53	6	61	12	601.1624	LOCKNUT	MS21047-3	
16	32	18	120	16	144	11	601.1607	WASHER	NAS1149P1332P	
						10	646.3410	LH WIPER DEFLECTOR		
						9	646.3411	RH WIPER DEFLECTOR		
			2	2	8	8	647.7703	STRUT ASSY		
			2	2	7	7	647.0112	STRUT BRACKET		
	1	1	1	1	6	6	646.3511	STRUT		
	1	1	1	1	5	5	646.3510	STRUT		
2	2		2	4	4	4	646.3810	BRACKET		
			1	3	3	3	646.2910	DEFLECTOR		
	1	1	1	2	2	2	646.3001	LOWER CUTTER ASSY		
			1	1	1	1	646.3301	UPPER CUTTER ASSY		
X							646.4006	LOWER CUTTER FIXED PROVISIONS		
	X						646.4005	LOWER CUTTER REMOVABLE PROVISIONS		
		X					646.4004	FIXED PROVISIONS KIT		
			X				646.4003	CABLE CUTTERS KIT WITHOUT FIXED PROVISIONS		
				X			646.4002	AS350 WIPER DEFLECTOR KIT		
					X		646.4001	AS350 CABLE CUTTERS KIT		
4006	4005	4004	4003	4002	4001	FIND #	PART #	DESCRIPTION	MATL	SPEC.

QTY	NEXT ASSY (S)	ORIGINAL DATE (M/D/Y)	DATE (M/D/Y)	CHECKED (P. BRAVO)
		DRAWN BY (P. BRAVO)	DATE (M/D/Y)	CONTRACT NO.
		DART 3030 ENTERPRISE CT. SUITE A VISTA, CA. 92081 (760)-724-5300		
		AS350 CABLE CUTTERS KIT SCALE: NONE SHEET 1 OF 5		

REFERENCE ONLY